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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,422	07/31/2000	Lawrence G. Anderson	1269P14	4427
24959	7590	03/18/2004	EXAMINER	
PPG INDUSTRIES INC INTELLECTUAL PROPERTY DEPT ONE PPG PLACE PITTSBURGH, PA 15272			BERMAN, SUSAN W	
			ART UNIT	PAPER NUMBER
			1711	
DATE MAILED: 03/18/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/629,422	ANDERSON ET AL.	
	Examiner	Art Unit	
	Susan W Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-87 is/are pending in the application.
- 4a) Of the above claim(s) 42-44, 46-58 and 62-87 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41, 45 and 59-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-41, 45 and 59-61 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Election/Restrictions

Applicant's election with traverse of Group I and the species wherein at least one of the first and second material comprises a polysiloxane, claims 1-41, 45 and 58-61 in Paper filed 01-05-2004 is acknowledged. An additional requirement to elect an ultimate species of the composition of Group I is set forth herein.

The traversal is on the ground(s) that the office has not shown that there would be a serious burden to examine the claims together. This is not found persuasive because the claims of Groups I-V set forth patentably distinct subject matter, as set forth below.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II or III or IV are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a compositions for providing a molding or a composite or a sheet and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions I and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a

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materially different process of using that product (MPEP § 806.05(h)). In the instant case the composition as claimed can be used in a materially different process such as a process of molding a component or a process for producing a sheet of cured material.

Inventions II and III or IV and Inventions III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and they have different functions and different effects.

Furthermore, because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper. Because these inventions are distinct for the reasons given above and the search required for each Group is not required for other Groups, restriction for examination purposes as indicated is proper. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant argues that there would be a serious burden to examine the claims together with respect to the requirement for election of species. This argument is not persuasive because the search for compositions comprising all known materials included in the claim language of the claims in Groups A, B and C would be unduly extensive. Component (a) comprises all known materials, including numerous kinds of urethane, ether, ester, or siloxane, monomers, oligomers, and /or polymers, etc. comprising at least one radiation-curable reactive group, such as epoxy, thiol-ene, vinyl, acrylate, etc. Component (b) comprises all known materials, including numerous kinds of monomers, oligomers, and /or polymers comprising at least one radiation-curable reactive group, such as epoxy, thiol-ene, vinyl, vinyl ether,

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acrylate, etc. The possible combinations of various components (a) and (b) are too numerous and functionally different to describe.

The requirement is not made final since reasons for restriction and election have not been set forth previously.

This application contains claims directed to the following patentably distinct species of the claimed invention: Different compositions comprising different kinds of radiation-curable reactive groups, thermally curable reactive groups and curing agents comprising a thermally curable reactive group, different kinds of "materials" comprising the reactive groups and particles that can be inorganic particles or composite (polymeric) particles.

Applicant is required under 35 U.S.C. 121 to elect a **single disclosed ultimate species of each components (a)-(d) in the elected composition** for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic. Different species of different components are set forth in the dependent claims.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious

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variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14, 15, 45 and 59-61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 14 and 15 it is not clear how a carbamate group, a urea group or a urethane group can be a reactive functional group. Each group would be expected to function as a linking group only. Claim 45 claims a coated substrate and then sets forth a composition according to claim 1 "deposited" on the substrate. The uncured composition on a substrate fails to provide a "coated" substrate, as understood in the coating technology. The composition must be cured, polymerized or hardened in order to provide a "coating". See claims 59-61 also. It is suggested that a curing step be added to the claim language.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 17-20, 34-37, 45, and 59-61 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maag et al (WO 98/40170 or equivalent 6,333,077). The disclosure of US '077 is relied upon. The composition is as set forth in the Abstract and has a resin solids content of 50-98 wt % of system (A) and 2-50 wt % system (B) (column 4, lines 28-44). System A is thermally curable and includes crosslinking agents (applicant's curing agents). System B is a radiation curable system wherein the prepolymers or oligomers can be silicone (meth)acrylates. See column 7, line 53, to column 8, line 19. Transparent pigments or extenders can be added (column 8, lines 64-66). Photoinitiators are taught in column 8, lines 36-50 and emulsifiers are taught in column 9, lines 28-33. Those compositions disclosed by Maag et al wherein system B comprises a silicone (meth)acrylate and transparent pigments or extenders are included are considered to anticipate the instantly claimed compositions. Alternatively, It would have been obvious to one skilled in the art at the time of the invention to include a silicone (meth)acrylate material in system B, as taught by Maag et al in column 8. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success because Maag et al teach that any of the (meth)acrylate functional prepolymers or oligomers mentioned would provide a free-radically curing system. With respect to claims 40-41 and 59-61, the properties set forth would be expected to be provided by curing the disclosed coating compositions wherein the components employed correspond to the components instantly claimed.

Claims 12-16 are rejected under 35 U.S.C. 103(a) as obvious over Maag et al (WO 98/40170 or equivalent 6,333,077), as applied to claims 1-11, 17-20, 34-37, 45, and 59-61 above, and further in view

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of Wilt et al (5,939,491). The disclosure of Maag et al is discussed above. Maag et al do not disclose compositions comprising a siloxane containing thermally curable reactive groups for thermally curable component A. Wilt et al teach curable composition based on polysiloxanes comprising thermally curable functional groups. The compositions are said to provide excellent appearance, mar resistance, acid etch resistance, adhesion, pot life, improved tack time and corrosion resistance (Abstract). Pigments and suitable amounts of pigments are taught in column 8.

It would have been obvious to one skilled in the art at the time of the invention to employ a thermally curable polysiloxane disclosed by Wilt et al as component (A) in the compositions disclosed by Maag et al. Maag et al provide motivation by teaching that numerous different kinds of thermally curable binders are suitable in the disclosed compositions. Wilt et al teach advantages, as set forth above, that can be provided by the disclosed polysiloxanes. It would have been obvious to one skilled in the art at the time of the invention to employ any of the transparent pigments disclosed by Wilt et al in the amounts taught by Wilt et al in analogous art as the transparent pigment in the compositions disclosed by Maag et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success since Maag et al teach that transparent pigments may be used in the clear lacquer coatings.

Claims 21-33 are rejected under 35 U.S.C. 103(a) as obvious over Maag et al (WO 98/40170 or equivalent 6,333,077), as applied to claims 1-11, 17-20, 34-37, 45, and 59-61 above, and further in view of Bilkadi (5,104,929). The disclosure of Maag et al is discussed above. Maag et al teach transparent pigments or extenders to the disclosed clear lacquer compositions but do not mention specific materials or particle sizes. Bilkadi discloses abrasion resistant coatings comprising diethylenically unsaturated materials, such as acrylated siloxanes, and colloidal silica particles surface treated by reaction with ethylenically unsaturated monomers. See column 3, line 63, to column 4, line 50, column 6, lines 47-51,

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column 7, lines 27-65, and Example 19. It would have been obvious to one skilled in the art at the time of the invention to employ the silicon dioxide dispersions taught by Bilkadi as transparent extenders in the coating compositions disclosed by Maag et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing a transparent extender, as taught by Maag et al. One of ordinary skill in the art at the time of the invention would have been further motivated by the teaching of Bilkadi that the silicone-free dispersions of silica are clear and stable in photocurable acrylate monomers compositions and exhibit excellent abrasion resistant and weatherable coatings for applications such as motorized vehicles.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-41, 45 and 59-61 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-61 of U.S. Patent No. 6,387,519. Although the conflicting claims are not identical, they are not patentably distinct from each other because the compositions set forth in both sets of claims require a polysiloxane having reactive functional groups, the same kinds of particles, the same kinds of curing agents and are curable by exposure to radiation and thermal energy. It would have been obvious to one skilled in the art at the time of the invention to include

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a component having radiation curable functional groups selected from the functional groups set forth in the claims in order to provide a composition curable by exposure to radiation and thermal energy, as set forth in the claims.

Information Disclosure Statement

The instant application has been transferred to Art Unit 1711 after applicant's election of the Invention of Group I claims. The application papers have been scanned into the eDAN system currently in use. However, the Foreign patent documents and the Non-Patent Literature documents cited by applicant in the IDS received 12-29-2000 have **not** been scanned and are currently unavailable to the examiner considering the claims of group I. Applicant is requested to resubmit the documents for consideration and for scanning into the permanent record.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Anderson et al Patents 6,593,417 and 6,657,001 and Application Publications 2003/0212199 and 2003/0207985.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
Art Unit 1711

SB

March 8, 2004